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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/195,129	11/18/1998	JIAN ZHOU	A-66713/WSG/	3991

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Pennie & Edmonds, LLP
3300 Hillview Avenue
Palo Alto, CA 94304

EXAMINER

GRIER, LAURA A

ART UNIT	PAPER NUMBER
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2644

13

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/195,129

Applicant(s)

ZHOU ET AL.

Examiner

Laura A Grier

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-20 is/are allowed.
- 6) ☒ Claim(s) 1,2,8,13 and 14 is/are rejected.
- 7) ☐ Claim(s) 3-7,9-12 and 15-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. **Claims 1 and 2** are rejected under 35 U.S.C. 102(e) as being anticipated by Hildebrand, U. S. Patent No. 5727074.

Regarding **claim 1**, Hildebrand discloses a method and apparatus for digital filtering of audio signals. Hildebrand's disclosure comprises a computer program in a Program ROM for computing a digital filter of a digital equalizer, wherein the filter is generated based on the type of audio reproduction device and components that are need for adequate function of the device, and outputs a signal to a speaker or speaker system, wherein the device may be a multimedia computer with an accompanying speaker or speaker system which depends on the type of connectors and wiring being used to for proper installation and audio broadcasting via the speaker system (col. 7, lines 40-67 and col. 8, lines 1-11, 60-67, col. 9, lines 1-24 and col. 11,

lines 1-9, and figures 2-6), all of which constitutes a memory comprising instructions for a computer to determine a speaker, selecting and/or generating a set of filter coefficients based on the speaker type, and providing a digital equalizer, which is parallel to a parametric equalizer with a digital filter and further Hildebrand discloses that one of more filters may be used within the DSP, which reads on the parametric equalizer comprising a plurality to equalization bands with one or more filters.

Regarding **claim 2**, Hildebrand further discloses support of the operator or use providing filter/equalizer parameters and calculating a set of filter coefficients base on the parameter input by the operator/user (col. 10, lines 57-67 and col. 11, lines 1-33).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hildebrand in view of Wood, U. S. Patent No. 6178514.

Regarding **claim 8**, Hildebrand discloses a method and apparatus for digital filtering of audio signals. Hildebrand's disclosure comprises a computer program in a Program ROM for computing a digital filter of a digital equalizer, wherein the filter is generated based on the type of audio reproduction device and components that are need for adequate function of the device, and outputs a signal to a speaker or speaker system, wherein the device may be a multimedia

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computer with an accompanying speaker or speaker system which depends on the type of connectors and wiring being used to for proper installation and audio broadcasting via the speaker system (col. 7, lines 40-67 and col. 8, lines 1-11, 60-67, col. 9, lines 1-24 and col. 11, lines 1-9, and figures 2-6), all of which constitutes a memory comprising instructions for a computer to determine a speaker, selecting and/or generating a set of filter coefficients based on the speaker type, and providing a digital equalizer, which is parallel to a parametric equalizer with a digital filter, and further Hildebrand discloses that one of more filters may be used within the DSP, which reads on the parametric equalizer comprising a plurality to equalization bands with one or more filters. Further, Hildebrand discloses support of the operator or use providing filter/equalizer parameters and calculating a set of filter coefficients base on the parameter input by the operator/user (col. 10, lines 57-67 and col. 11, lines 1-33). However Hildebrand fails to specifically disclose the loudspeaker or speaker of the computer being a Universal Serial Bus (USB) loudspeaker. The examiner maintains that a USB loudspeaker was well known in the art as taught by Wood.

Regarding the USB loudspeaker, in a similar field of endeavor, Wood discloses a method and apparatus for connecting a device to a bus carrying power and a signal. Wood's disclosure comprises a personal computer using USB circuitry, like a USB loudspeaker (figures 1 and 2 and col. 1, lines 66-67 and col. 2, line 1, col. 9, lines 26-38).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Hildebrand by incorporating computer peripherals such a USB loudspeaker for the purpose of optimizing the function of the computer in regards to a multimedia type computer producing quality audio output (stereo) by providing the system with

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efficient audio equalization, wherein the USB loudspeaker are one of several common types of speakers that may be used as computer speakers.

6. **Claims 13 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hildebrand in view of Wood.

Regarding claim 13, Hildebrand discloses a method and apparatus for digital filtering of audio signals. Hildebrand's disclosure comprises a computer program in a Program ROM for computing a digital filter of a digital equalizer, wherein the filter is generated based on the type of audio reproduction device and components that are need for adequate function of the device, and outputs a signal to a speaker or speaker system, wherein the device may be a multimedia computer with an accompanying speaker or speaker system which depends on the type of connectors and wiring being used to for proper installation and audio broadcasting via the speaker system (col. 7, lines 40-67 and col. 8, lines 1-11, 60-67, col. 9, lines 1-24 and col. 11, lines 1-9, and figures 2-6), all of which constitutes a memory comprising instructions for a computer to determine a speaker, selecting and/or generating a set of filter coefficients based on the speaker type, and providing a digital equalizer, which is parallel to a parametric equalizer with a digital filter, and further Hildebrand discloses that one of more filters may be used within the DSP, which reads on the parametric equalizer comprising a plurality to equalization bands with one or more filters. However, Hildebrand fails to specifically disclose the loudspeaker or speaker of the computer being a Universal Serial Bus (USB) loudspeaker. The examiner maintains that a USB loudspeaker was well known in the art as taught by Wood.

Regarding the USB loudspeaker, in a similar field of endeavor, Wood discloses a method and apparatus for connecting a device to a bus carrying power and a signal. Wood's disclosure comprises a personal computer using USB circuitry, like a USB loudspeaker (figures 1 and 2 and col. 1, lines 66-67 and col. 2, line 1, col. 9, lines 26-38).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Hildebrand by incorporating computer peripherals such a USB loudspeaker for the purpose of optimizing the function of the computer in regards to a multimedia type computer producing quality audio output (stereo) by providing the system with efficient audio equalization, wherein the USB loudspeaker are one of several common types of speakers that may be used as computer speakers.

Regarding **claims 14**, Hildebrand further discloses support of the operator or use providing filter/equalizer parameters and calculating a set of filter coefficients base on the parameter input by the operator/user (col. 10, lines 57-67 and col. 11, lines 1-33).

Allowable Subject Matter

7. Claims 19 and 20 are allowed.
8. **Claims 3-7, 9-12 and 15-18** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 12/18/2002 have been fully considered but they are not persuasive.

The applicant essentially argues on page 13 that the prior art of Hildebrand fails to disclose a multi-band equalizer, but yet teaches a time domain filter and explicitly distinguish between the two types in respect that a multi-band equalizer operates in a frequency domain and and time domain filter operates in respect to intervals of time. This argument is not persuasive by the fact that the claim language fails to limit the invention specifically to a multi-band equalizer which operates in a frequency domain, the claim language indicates a parametric equalizer with a plurality of equalizer bands, with one or more filters, and Hildebrand further discloses that one of more filters may be used within the DSP, which reads on the parametric equalizer comprising a plurality to equalization bands with one or more filters, and teaches equalizing in respect to high and low frequencies, which is the indicative of the claim language.

The applicant essentially argues on page 14 that the prior art of Hildebrand fails to disclose automatic determination of a type of speaker and mentions that much of Hildebrand's development of the digital filter in respect the audio devices used is based upon user input. However, along with such user implementation, a computer program is essential factor for producing the filter and thus, the use of software application to develop the filter reads on automatic determination of the speaker being used, wherein it is well known that the improvement or correction of the acoustics of a speaker (depending of the type) is the essential aspect of equalization. And on page 15, the applicant argues that Hildebrand fails to provide "instruction to select a set of filter coefficients for a digital filter based upon the type of speaker".

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Hildebrand teaches providing compensation and/or equalization of the computer system based upon the type of audio system devices including the audio reproducer, the wiring and the speaker themselves, thus the filters contain coefficients that are sufficient for providing adequate equalization for the specific speaker at question.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

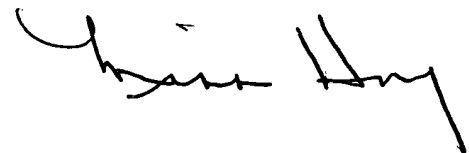
Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

LAG *LAG*
September 22, 2003



**MINSUN OH HARVEY
PRIMARY EXAMINER**